

Appl. No. 09/902,160
Amdt. dated January 24, 2006
Reply to Office Action of October 24, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Please cancel claim 1 and amend claims 2, 4-7, 9, 10, and 18 as follows:

1. (canceled)
2. (currently amended): The equalizer as in claim ~~1~~18 wherein the tracking generator further generates a reduced error by subtracting the fractional error from a stored smoothed error.
3. (original): The equalizer as in claim 2 wherein the tracking generator further generates a fraction of the reduced error.
4. (currently amended): The equalizer as in claim ~~1~~18 wherein the tracking generator further generates the smoothed error from the tap coefficient error estimate and a smoothing factor.
5. (currently amended): The equalizer as in claim ~~1~~18 wherein during a start up period, the coefficient generator receives existing tap coefficients and fractional errors associated with the data samples of the input data stream and adjusts the existing tap coefficients based on the fractional errors.
6. (currently amended): The equalizer as in claim ~~1~~18 further comprising an output unit for generating a converged output signal.

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7. (currently amended): The equalizer as in claim ~~1-18~~ wherein the tracking generator further generates the fractional error based on the smoothed error and a coefficient adjustment factor.

8. (original): The equalizer as in claim 7 wherein the adjustment factor is $1/256$.

9. (currently amended): The equalizer as in claim ~~1-18~~ wherein the tracking generator comprises a programmed medium.

10. (currently amended): A method for shortening the convergence time of blind adaptive equalizers comprising:

receiving a tap coefficient error estimate of an input data stream, wherein the tap coefficient error estimate is generated by multiplying an adjusted equalizer error with a data sample;

generating a smoothed error from the estimate;

generating a fractional error from the smoothed error; and

adjusting a tap coefficient in a coefficient generator according to the fractional error.

11. (original): The method as in claim 10 further comprising generating a reduced error by subtracting the fractional error from a stored, smoothed error.

12. (original): The method as in claim 11 further comprising generating a fraction of the reduced error.

13. (original): The method as in claim 10 further comprising generating the smoothed error from the tap coefficient error estimate and a smoothing factor.

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14. (previously presented): The method as in claim 10 further comprising:
receiving initial tap coefficient values and fractional errors associated with the
data samples of the input data stream; and
adjusting the initial tap coefficients based on the fractional errors.
15. (original): The method as in claim 10 further comprising generating a converged
output signal.
16. (original): The method as in claim 10 further comprising generating the fractional
error based on the smoothed error and a coefficient adjustment factor.
17. (original): The method as in claim 16 wherein the adjustment factor is 1/256.
18. (currently amended): ~~The equalizer as in claim 1~~ A blind, adaptive equalizer
comprising:
a coefficient generator for adjusting a tap coefficient; and
a tracking generator, wherein the tracking generator comprises
a smoothing filter for receiving a tap coefficient error estimate associated
with a data sample of an input data stream and for generating a smoothed error
from the tap coefficient error estimate wherein the tap coefficient error estimate is
generated by multiplying an adjusted equalizer error with a the data sample; and
a tracking unit for generating a fractional error from the smoothed error,
the coefficient generator adjusting the tap coefficient based on the fractional error.